CLAIMS

I claim:

1. A keyed system for a filtration unit, the keyed system comprising:

a filter and a cooperating holder, wherein the filter has a filter surface with a perimeter having a key protrusion and the cooperating filter holder has a holder surface with a perimeter with a cooperating lock recess for receiving the key protrusion of the filter, so that the filter is insertable into the holder because the key protrusion slides into the lock recess;

wherein the key protrusion comprises a plurality of protrusions all contained within less than a 70 degree arc on a curved surface of the top end of the filter; and

wherein the location of the key protrusion and the lock recess on said perimeters is selectively locateable to different circumferential locations on said perimeters so said keyed system is adapted to prevent said filter from being installed in any but its cooperating holder.

2. The keyed system of Claim 1, wherein the filter is an elongated filter with an longitudinal axis and a radius, and wherein said key protrusion is on an upper shoulder of a top end of the filter, and the lock recess is on an inner surface of a cavity of a holder, wherein the cavity receives the filter top end.

3. The keyed system of Claim 2, wherein the key protrusion comprises three protrusions contained within said less than 70 degree arc on the upper shoulder of the top end of the filter.

4. The keyed system of Claim 2 further comprising a second key protrusion comprising a plurality of protrusions contained within less than a 70 degree arc on the upper shoulder of the top end of the filter and generally 180 degrees apart from said key protrusion.

5. The keyed system of Claim 3, wherein the lock recess comprises a plurality of recesses within a 70 degree arc on the inner surface of the cavity.

6. The keyed system of Claim 4, wherein the lock recess comprises three recesses contained entirely within less than a 70 degree arc on the inner surface of the cavity.

7. The keyed system of Claim 5, wherein the recesses are axial slots in the cavity surface parallel to the longitudinal axis of the filter, and the lock recess further comprises a circumferentially-extending lock recess, and wherein the filter is adapted to rotate after insertion into the holder so that the key protrusion slides into the lock recess of the holder to lock the filter in the holder.

8. The keyed system of Claim 6, wherein the recesses are axial slots in the cavity surface parallel to the longitudinal axis of the filter, and the lock recess further comprises a circumferentially-extending lock recess, and wherein the filter is adapted to rotate after insertion into the holder so that the key protrusion slides into the lock recess of the holder to lock the filter in the holder.

9. A keyed system for a filtration unit, the keyed system comprising:

a filter and a cooperating holder, wherein the filter holder has a tubular outer surface having a radially-outward-extending key protrusion and the cooperating filter has a tubular inner surface having a radially-inwardly-extending lock recess adapted to receive the key protrusion of the cooperating holder, so that the filter is insertable into the holder because the key protrusion of the holder slides into the lock recess of the filter;

wherein the locations of the key protrusion and the lock recess on said tubular outer and inner surfaces are selectively locateable to different circumferential locations on said tubular outer and inner surfaces to prevent said filter from being installed in any but its cooperating filter holder.

10. A keyed system as in Claim 9, wherein said tubular outer surface is the outer surface of a male fluid tube that connects with the filter, and wherein the tubular inner surface is the inner surface of a female fluid tube that connects to and seals with the male fluid tube.

11. A keyed system as in Claim 10, wherein the male fluid tube has a single key protrusion extending out its outer surface.

12. A keyed system as in Claim 11, wherein the female fluid tube has a single lock recess extending toward a central axis of the female fluid tube.

13. A keyed system as in Claim 10, wherein the holder has two male fluid tubes, wherein one of the two male fluid tubes is a liquid-inlet tube for conveying liquid to the filter, and the other of the two male connector tubes is a liquid-outlet tube for conveying liquid away from the filter, and wherein both of the two male connector tubes have a lock recess on their outer surfaces.

14. A keyed system as in Claim 13, wherein the filter has two female fluid tubes that connect with and seal to said two male fluid tubes, and wherein both of the two female fluid tubes have a key protrusion on their inner surfaces.

15. In a filtration assembly including the subassembly of a keyed filter and the subassembly of a cooperating holder, wherein the cooperating holder has a holder surface with a circumferential perimeter having a first cooperating recess structure having a plurality of axial portions separated by radially-protruding ridges, and the cooperating recess structure further having one circumferentially-extending lock portion having an open end near, and in mechanical communication with, said axial portions and having a closed opposite end;

the filter subassembly comprising:

a filter surface with a perimeter having a first set of a plurality of key protrusions, wherein said key protrusions slide through the axial portions during axial insertion of the

filter into the holder and, upon angular rotation of the filter in the holder, said first set of a plurality of key protrusions are received in the one circumferentially-extending lock portion.

16. The filter subassembly of Claim 15, wherein the filter is an elongated filter with an longitudinal axis and a radius, and wherein said first set of key protrusions are on an upper shoulder of a top end of the filter, and the recess structure is on an inner surface of a cavity of a holder, wherein the cavity receives the filter top end.

17. The filter subassembly of Claim 16, wherein said first set of key protrusions are all within a 90 degree arc on the upper shoulder of the top end of the filter.

18. The filter subassembly of Claim 16, wherein said first set of key protrusions are all within less than a 70 degree arc on the upper shoulder of the top end of the filter.